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Ep.

NO. 20

Observations

on

Papulae March 13th 1827
W. & H.

Pleuritis

and its consequences including

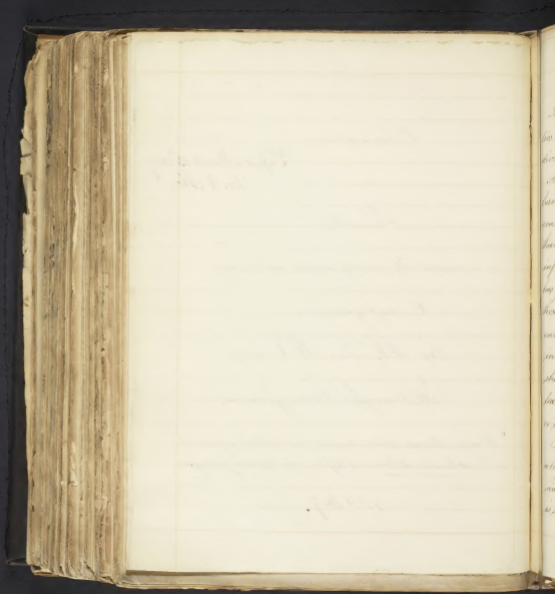
Empyema.

By W. F. McClurg.

Pittsburgh Pennsylvania.

"Hunc neque dira venena, nec hostilicuspertensis,
Nec latenter dolor, aut lypsis, nec tarda postagrat.
Hæc.

1826-7.

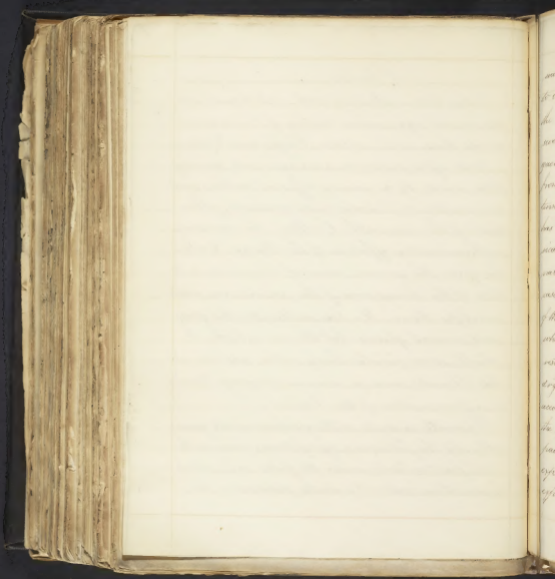


Pleuritis.

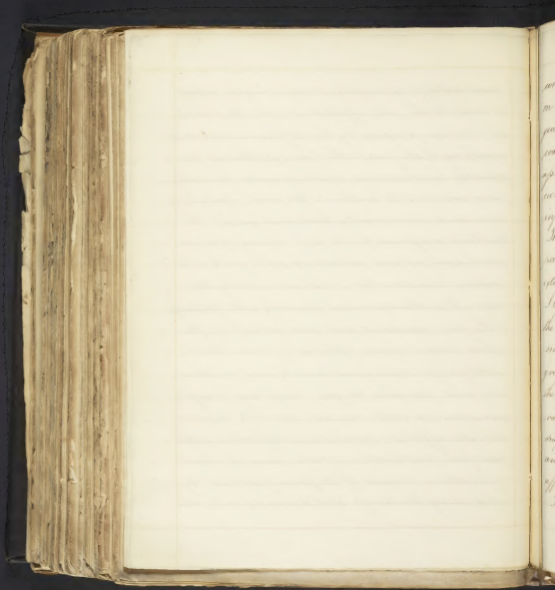
It has been customary with pathological writers in all ages, when treating of Diseases, to divide them into certain Classes and Orders.

And after numerous arrangements having been made, by as many different authors, modern writers on Diseases most generally follow that, of the venerable Cullen. In dividing inflammatory affections of the Thorax, Cullen has given the generic name of Pneumonia to those of the lungs and of the membrane which envelops them. He has subdivided this genus into several species; but the one which I shall more particularly notice has been called Pleuritis, and in common language Pleurisy or inflammation of the Pleura.

Pleuritis may be distinguished, most generally, by the following symptoms; pain in the side, particularly under the false ribs, which is sometimes extremely acute, producing the



most distressing anxiety; compelling the patient to turn to the side affected in order to relieve the tension produced by the inflammation and swelling of the part: the pain is likewise frequently lancinating, darting instantaneously from one part to another; the pulse is full, strong, tense, and remarkably hard and quick. It has been compared to the tense string of a musical instrument vibrating with quick alternations, however this is not invariably the case. It is attended most generally with flushings of the face, increased heat and redness of the whole body, rigors, followed by fever, thirst, restlessness, with great anxiety, and sometimes dry and parched tongue, hard dry cough, accompanied with nausea; inability to lie on the side affected; respiration difficult or rather painful, inspiration much more so than expiration, because of the pain produced by expanding the lungs, and drawing up the ribs.



which is relieved again by expiring the air, so on alternately. If blood be drawn, it will generally exhibit the thick, ropy or buffy coat, and the cupped form which blood assumes, when drawn into deep vessels, on coagling, commonly an indication of severe inflammation in some part of the system.

The inflammation, which these symptoms point out, may be confined to a spot or may extend over the whole of one side of the thorax.

I believe, however, that the irritation producing the inflammation is generally confined to a small compass; and that the inflammation gradually extends, by what Surgeons call the contiguous inflammation, over the pleura covering the parietis of the chest, the diaphragm, mediastinum and the lungs; and sometimes by the contiguous inflammation affecting even the substance of the lungs.

The inflammation involving this delicate



serous membrane, is produced in a variety of ways, the most frequent of which will be mentioned, not in the order of their occurrence but in that, in which they will be treated of, as this Phlegmasia, will require some difference of management, according to its exciting cause.

The disease may arise from sudden vicissitudes of weather, exposure to strong currents of air, more particularly when the person has been heated above the natural standard, by dancing, running or any other employment calculated to accelerate the circulation of the blood and of course to quicken the pulse, by going into a damp or cold place when in a state of perspiration thereby suddenly subverting the external exhaling process, the mouths of the excreting vessels of the subcutaneous arteries being contracted.



It is my duty to state some circumstances
 between and the above reports of the
 same, over which we have been so
 as to be used by me as a controlling and
 then such accounts returned by a doctor.
 In doing so, we have been further from
 concerned or troubled with and even now
 in a manner to be as the same.

The various causes and the various
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6
In determining whether it is better, made at
an interval, for example, an interval,
in some cases. But it is not necessary in
all cases.

There is only one case for a second
length of time; and it may be some time
and some time may be taken, and
understand the words it is not possible
because it may be possible in a much
more time by active means, justly,
and it may be given way to the
there, with a second day. The time
may be very much according to the
nature of the constitution, the nature.

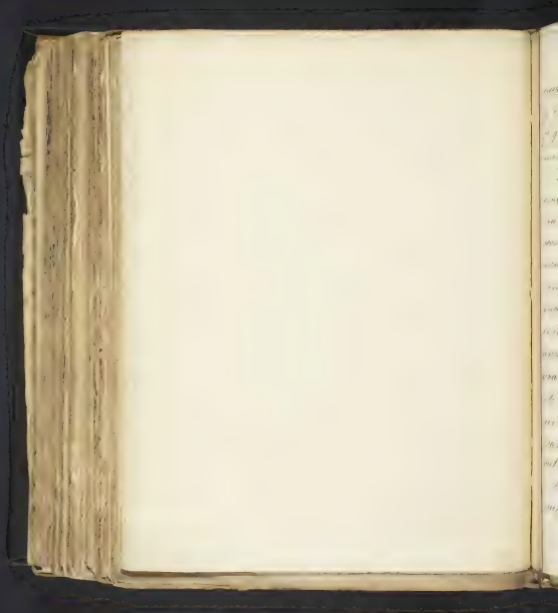
The constitution is a very common
condition, and it is a common condition
to be in a condition, and it is a common
condition, but it is a common condition,
and it is a common condition, and it is a
common condition, and it is a common
condition, and it is a common condition.





a more tedious symptomatic case, in which the
secretion is in the lower part of the cavity of the
chest; and as the secretion increases, the patient
will experience a sensation of weight on the
diaphragm, difficulty of breathing, par-
ticularly in the recumbent posture which
aggravated by any slight exertion, especially
on ascending a height, uneasiness at the
lower end of the sternum, cough, at first
dry and difficult, afterwards mucous
or phlegm is expectorated; adenae of the
neck and lower extremities; great thirst;
diminution of urine, and a great variety
of attending circumstances.

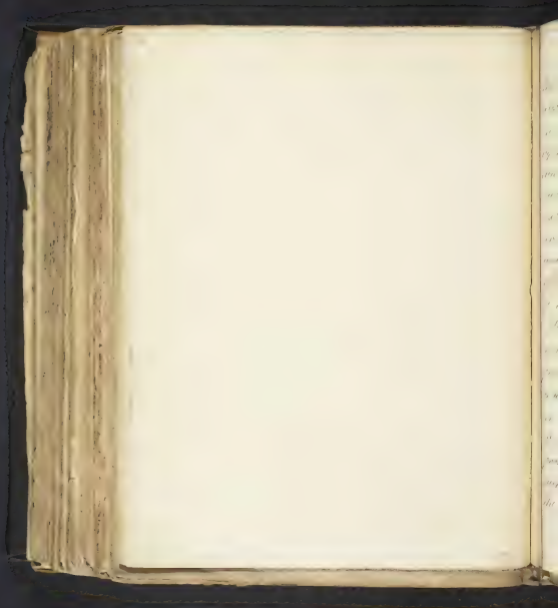
These symptoms gradually increase the
fluid suppurates when the lung and its
functions more or less; giving rise to dysp-
noea, oppression, and other symptoms
of pleurisy. This is always a serious
malady, and when arrived at a certain



causes, usually, proves salutary, and is not attended by extreme agony, and is usually, persons of good constitution. In some cases it is morbid and a cure is not effected.

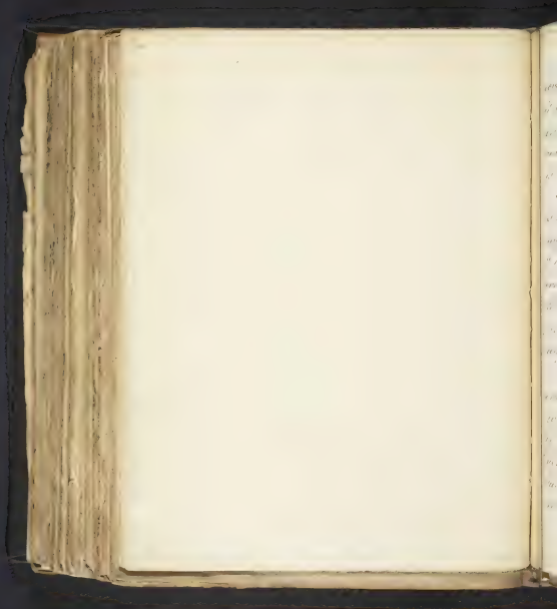
The second termination is that, when coagulable lymph is secreted. This has already been noticed, but in that case the secretion was so small, that no permanent injury could result; but it is sometimes thrown out in such large quantities as to cause a very great thickening of the tunic, giving it the appearance of a thick cottony membranous mass, very uneven and irregular in its surface, of a red color, interspersed with white and streaks of a darker and sanguineous hue, occasionally it is thrown out in the form of laminae.

When the inflammation extends to the surface, that is, to the covering surface of



the *Uterus* vessels and *Uterus*, put more
 able, they are *secretory* and *suppurative* in
 nature, and *secreted* into an *solid substance*
 by the *secretion* of the *uterus*, which ac-
 tion is *secretory* in the *uterus* and *both*
secretory and *secretory* in *contact* in
contacting *external* *secretions* *secreted*.
 are *secreted* into an *solid* *substance*
 in the *same* *way* *that* *the*
secretion *and* *secretion*
 of any *other* *part* *of* *the* *body*.

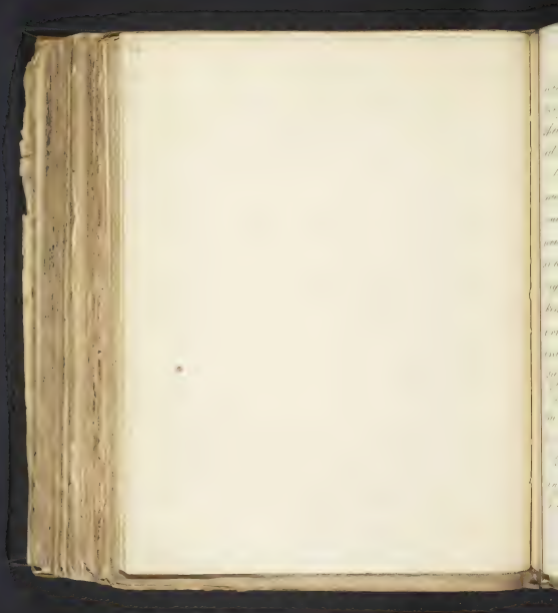
But there are *cases* *where* *the* *uterus* *is*
secreted, and *then* *most* *generally* *our*
own *external* *secretions*, *but* *no* *such* *union*
secretion *can* *take* *place* *and* *is*
in *addition* *to* *the* *secretion* *in* *the*
secretion *of* *a* *bloody* *fluid* *secreted*
from *the* *secretion* *of* *the* *uterus* *is*
secreted *in* *the* *uterus*, *which* *is*
the *uterus* *part* *of* *the* *body* *and* *secretion*



even the collapsed lung, moving mixed with
 it a column, inevitable of consequent impulse
 in the form of pleurisy. This collection can
 only take place when the external wound
 is closed.

Valve, in all our wonderful works
 is not more to be admired, than in the
 mechanism, construction, and sanction
 of the lungs, more substantially in our
 arrangement of supporting in our
 thorax, by this, she has made provision
 of the cavities, which are to be
 proportional among mankind.

She bequeathed a very important
 function to the lungs of the thorax
 could frequently be instantaneously
 suspended, were they arranged in the
 same manner, as those in the abdomen,
 but as the vessels of the thorax, in form
 were important functions in the animal

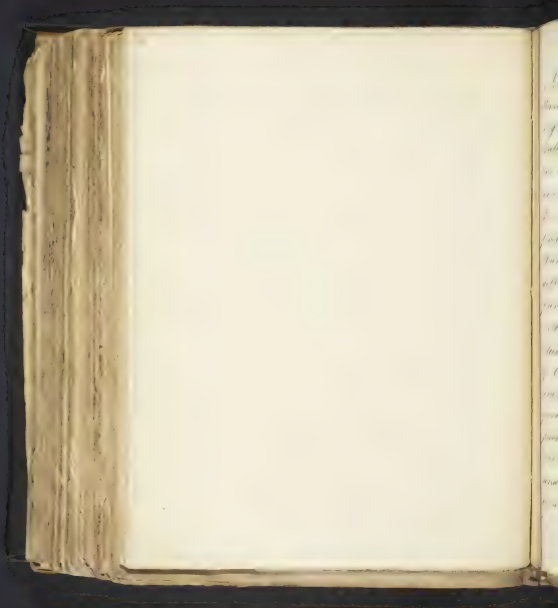


economy, and of consequence are even essential to life, Nature has provided for their greater security, by separating them all from each other.

Were it not for this important arrangement in the Nature, forming the medium, the sensations of one side of the nerves would interrupt the functions of the other, and death would be an inevitable consequence. I do not naturally for mankind, the functions of one single of his arrangements, are increased, and are entirely sufficient to support life as is sufficiently proved.

In almost all of the preceding cases, the delicate membrane of the Livers is a sound marked upon dissection.

There is another way by which the inflammation of the Livers is proved, the Livers and last which states indeed,



It is perhaps more rare than any other
 lamination, but is much more interest-
 ing to the Surgeon: it is that viz. Suffer-
 ing. It does not arise and persist when
 no secretion will pour in properly
 another, is perfectly out of the power of
 the Physician; and however difficult this
 precept is to be explained, certain it is
 that Sigs may be sent to any mem-
 ber, vent, or breast, and even every
 part of the body.

A collection of Pus in the cavity of the
 Pleura, however distinguished by the name
 of Empyema, and is often produced
 and kept up by the irritation of some
 foreign body, and may also be
 produced by any substance projected with
 violence against the parietes of the Thorax;
 and constant irritation may be continued
 by a protracted rib, lypid, cloth, gun, metal.



or other extraneous matter lying near the cavity of the thorax.

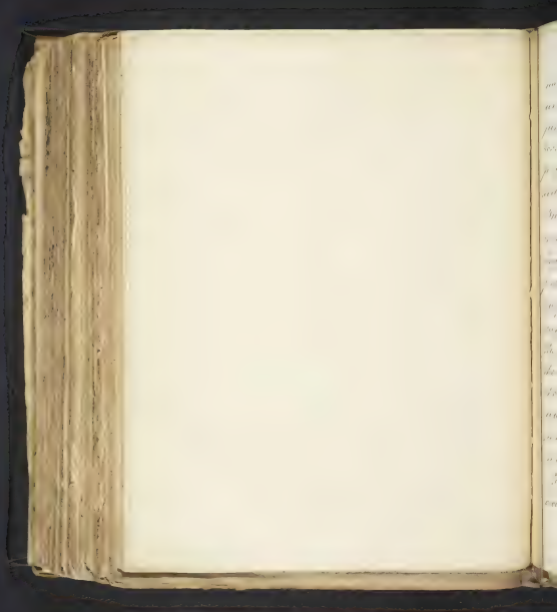
Under these circumstances the entire surface of the Pleura reveals this purulent fluid, which descends to the bottom of the cavity, and fills it up as high as the external wound, through which it makes its way; supposing it still remains open; but if the wound is closed the cavity is then completely filled with an increased quantity of fluid that accumulates and compresses the lung of the affected side. The diaphragm descends, the intercostal muscles swell out, the whole side of the thorax is raised up and presents a more arched and tumid appearance, the heart and mediastinum are pushed to the opposite side, preventing the full dilatation of that lung; and thus producing the most distressing symptoms.



which, if not speedily removed, the patient must inevitably perish. In these cases the lung is not always destroyed, but lies in a collapsed state at the posterior part of the cavity, most generally covered by an adventitious membrane; and resumes its functions when the abscess is removed and the inflammation subsides which circumstances, however, seldom occur as the unfortunate patient is generally carried off by hectic fever.

Empyema is sometimes the result of a chronic inflammation of the Pleura, and when this happens it may continue a long time, according to the strength and constitution of the patient.

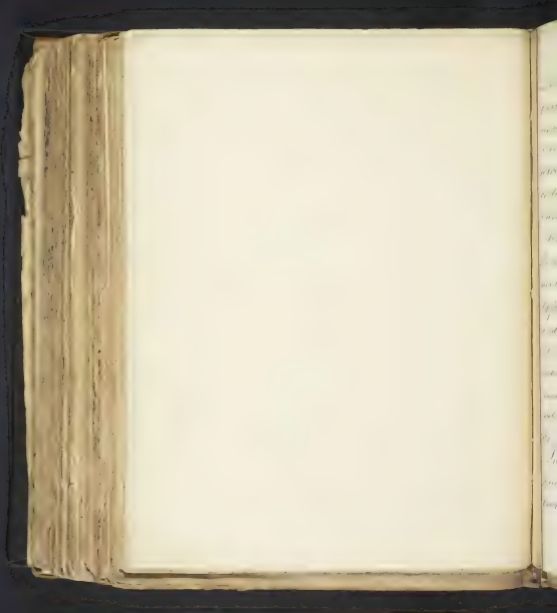
A fistulous orifice is sometimes formed, through which, there is a constant discharge, & the pus must be prevented from coagulating by a compress and bandage and care.



peated at periods, when the patient becomes uneasy, or when the evolution would be injurious. Although Erysipema is generally formed by a slow process, yet it sometimes progresses, with great rapidity frequently destroying the patient in a very short time.

This dangerous disease may take place not only from the Throat, when in a highly inflamed state, from which it generally proceeds, but likewise from inflammation, supuration, & ulceration of some of the surrounding parts. As for instance from the liver, producing ulceration through the diaphragm and discharging into the Thorax; or even the spleen in the same way; from the lungs; and from the cellular membrane exterior to the Throat or in the mediastinum &c.

These cases although extremely rare do occasionally occur and the fluid conveyed



with the Throat, differs materially both in its general appearance and consistence, which circumstances may perhaps be obtained, by sections from the different lips, from the degree of inflammation producing these excrescences, and likewise from the kind of inflammation which is of importance.

When from any cause Pus is collected in the cavity of the Throat, it usually continues to increase, aggravating the symptoms, dyspnea, oppression and sense of suffocation, and pressing in every direction, distends the Throat, causes an enlargement of the affected part of the Throat and sometimes presses the trachea and heart from their natural situation. Such cases soon prove fatal by suffocation, if not relieved.

In some few instances the degree of pressure causes ulceration either into the lungs and trachea the matter being discharged by



coughing; or sometimes returns the vice. It how-
 ever the remains in various other, by the
 rigidity around, by an elevated opening, or
 by a vigorous, pulsation, and when the
 patient has more strength of constitution,
 it has remained that the discharge continues
 copious for a long time, but eventually it grad-
 ually diminishes, while the cavity of the
 Pleurae as slowly contracts in various ways,
 the compressed lung expands, the diaphragm
 ascends and becomes more prominent, the
 shrunk shoulder and ribs descend, whilst
 the mediastinum and heart also return to
 their natural situation; as soon even if
 part is unable to return to diminish the
 cavity: in some instances the lung finally
 comes into contact with the opposing surface
 of the pleura costalis, union takes place,
 and the lung is rendered perfectly more ex-
 panded, its cavity is a small portion of

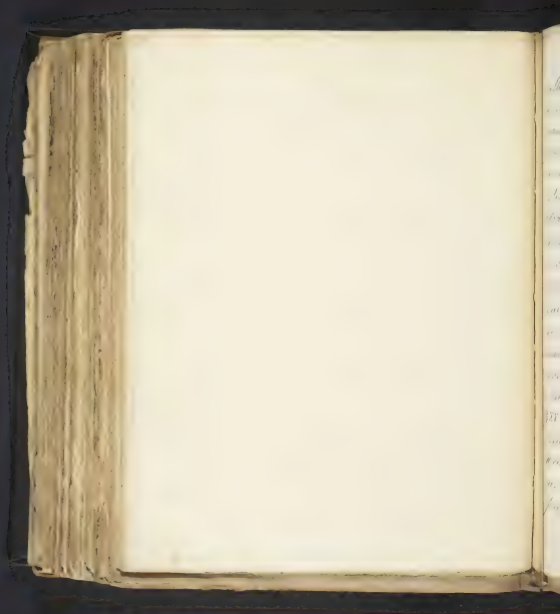


it remains, and a fistulous orifice is formed, in these respects the patients perfectly recover, though much are discharged and the accident having no operation.

Some patients however, see without this discharge and then a crop almost always, or sooner or later forms, evacuating in these cases where the irritation was, or was by foreign bodies, or a second cut, but even now the patient often languishes for years and is finally destroyed by hectic wasting.

Treatment.

The management of this disease has varied exceedingly, in the different periods of medical science, according to the prevailing doctrines of the times; and some of the most eminent amongst the older physicians, advocated ideas of cure diametrically opposite. But as the nature of the disease, in its own time, and its influence, were in modern times,



After understood, bloodletting was so obvious
a means of cure that it was most generally
resorted to. But however the practice is
now well established in common cases,
and I will endeavour to point it out.

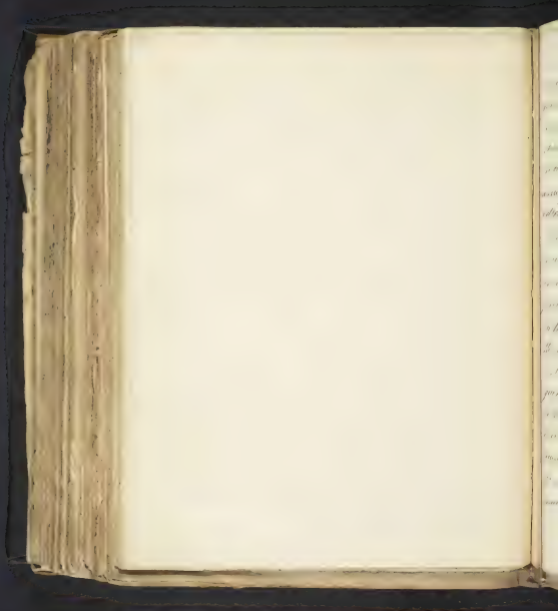
In all acute cases we now begin by starting
blood in large quantities, and always until
we have made an impression upon the
system. The indications of cure are two,
the first is to remove as far as possible the
cause of the complaint, and the second
is to change or restore to health the morbid
condition of the blood vessels and parts con-
cerned in the production of the disease.

In former it is fulfilled by extracting
3xx. or 4xx. of blood, or as I have just
mentioned, until we have made a
decided impression, it was of course so
understood, that the quantity was, or in
proportion to the age and size of the patient.



experience has proved that it is much
better to draw blood in *peu à peu* and
very copiously, than small quantities.
It is repeated. It will be observed that I am
now speaking of the commencement
of the disease in the acute form, and this
treatment will be applicable to it, from
whatever cause it may have originated,
with the exception of the noted hæmorrhoids.
The patient must now be confined to
bed in the horizontal posture.

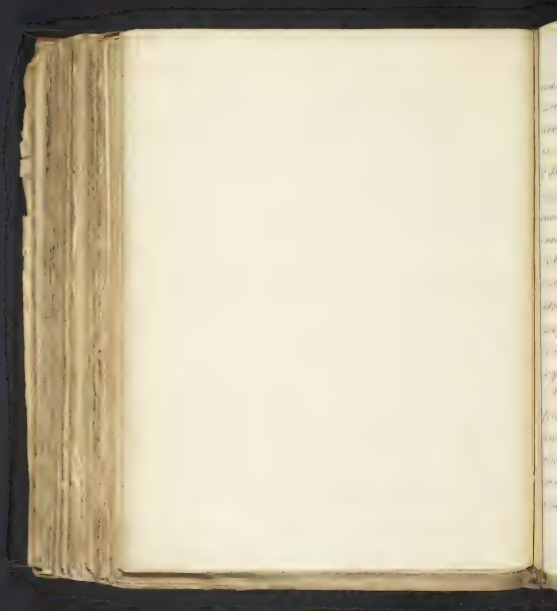
After the circulation is sufficiently reduced
we may then resort to local remedies, for
the purpose of more effectually relieving
pain and inflammation, if this happens.
Cups and leeches should be first applied,
vascular action being reduced by the pre-
ceding means, blisters will be found to
be of immense importance, and with
their assistance added to the more active



men already taken it, we may more
generally decide entirely the inflammation.
In concurring with these measures, we
should have recourse to purgatives, indeed
moderate purging should never be neglected
and patients will be able to bear it much
better, than is generally imagined.

Purgatives undecidedly produce a new dis-
tillation, and are beneficial, not only
on account of the reduction of vascular action
produced by means of the venetics, induced
by them, but likewise for the revulsion of
the blood, it being sent downwards.

Treatment of the Hemorrhages, as a con-
sequence of Pleuritis. First of Hemorrhages
or effusion of Serum. When an effusion
has taken place, from the inflammation in-
duced by an external wound, and where
of course the lung has collapsed; if the ex-
ternal orifice still remain open, we must



endeavour to keep it so, that we may with more facility evacuate the effused fluid, which should be done from time to time in order to prevent too great compression of the opposite lung; and in the meantime we must employ such other remedies as have a tendency to loosen the effusion and cure the inflammation.

As the inflammation subsides the secretion will decrease, the lung expand, adhesions take place, and now the orifice may be closed; in this way a perfect cure is sometimes effected, when the patient is young and of good constitution.

But when Hydrothorax takes place from internal causes, the case will be much more difficult to manage, and almost always terminates in death, but so long as life and hope remain we must endeavour to loosen the effusion and re-



more the secret disposition of the system
themselves. And for those several indi-
cations, we must prescribe such medicines
as we are used in a variety of the kind
and if possible power, its recovery.

The bowels are generally constipated, by
removing this, will have the effect of
exciting the nervous system; and for
this purpose we may use some of the
drastic purgatives, such as calomel, jalap,
garlic, and, in some cases, castor oil.

Some of them in combination with pills
such indications, and are not so far, and
our last pills have proved very success-
ful in many instances, where the
other circumstances have been attended
to, and the patient's weak constitution.

It is the opinion of some, is great as
to fill the whole cavity of the lungs and
produce symptoms of inflammation of the lungs.



upon the lungs, if we cannot excite an absorbent system to take up the fluid as fast or faster than it is secreted, we must resort to the operation of Sarcenitis, Thoracis in order to relieve the patient and prevent immediate death.

Although this operation has been successfully performed, it by no means cures the disease, it removes one source of danger but, may sometimes do mischief by creating a new inflammation, and very seldom affords permanent relief.

The great danger of puncturing the Thorax is the liability of producing inflammation which may extend to the lung and other parts of the cavity, by the continued irritation of the Pleura. And third, which the lung is very prone to contract, until we can remove the previous inflammation and prevent another from



improving, the operation is likely to prove more prejudicial than useful, however, by keeping the cysts closed with a cystotome and caudage, we may excise the fluid when necessary, and thus prevent its increase, until, in due season, it can be properly withdrawn, and so, we may probably finally effect a permanent cure.

For the preceding reasons, this operation is now seldom performed, and indeed never should be attempted until we have tried all other remedies without effect, it may then be performed as a dernier resort in young persons, or even constitutions alike.

The second termination of the cyst is that of sanguinolent lymph, which is met in particular cases, requiring particular attention, even to surgery, as abscesses are very often the consequence, and always a great danger, to the patient as they pro-



vent the effusion of serum, blood, pus, &c.
into the cavity of the pleura.

Where, however, adhesions cannot take
place from cellularity of the lung and this
issue becoming covered with a membrane
substance, formed by the impurities of the
the external viscus, as the pleura, I could be
eased immediately supposing one exists,
is by this means we could be more likely to
prevent the inflammation from extend-
ing to other parts and when it runs
on to the supplicating stage.

The first termination of Pleurisy,
which I shall mention, is that by the se-
cretion of Pus, like the serous effusion, it
is presented to us under two different cir-
cumstances. First, where there is an external
opening into the cavity of the pleura, and
Second, where this cavity is entire. In
both cases, the lung is, more or less collapsed



in proportion to the degree of exposure or compression &c.

Where there is an external opening, and the Pus has a free outlet, the primary object of the Surgeon should be to facilitate Nature's efforts for the obliteration of the cavity of the Pleura, and at the same time, prevent the accumulation and consequent stagnation of Pus in this cavity, after it has degenerated from exposure to the atmospheric air.

The stagnation of Pus is to be prevented by a proper position, and by the use of injections of tepid water, milk and water, or simple mucilaginous liquids, by which the cavity may be completely cleared.

To facilitate the expansion of the lung and the consequent obliteration of the cavity of the Pleura, the external wound is to be kept closed as much as possible, but the atmos-



phoric air may not enter at every inspira-
 tion into the cavity of the thorax; thus
 preventing the distention of the lungs, hence
 the vessels should be closed during inspira-
 tion, and none else are opening, as seldom
 to be removed, unless we have reason to
 have shut too much & is accumulating;
 or that it may become coagulating; in either
 of which cases the vessel is to be opened
 and the discharge accelerated by injecting
 & after which it is to be closed in the same
 careful manner.

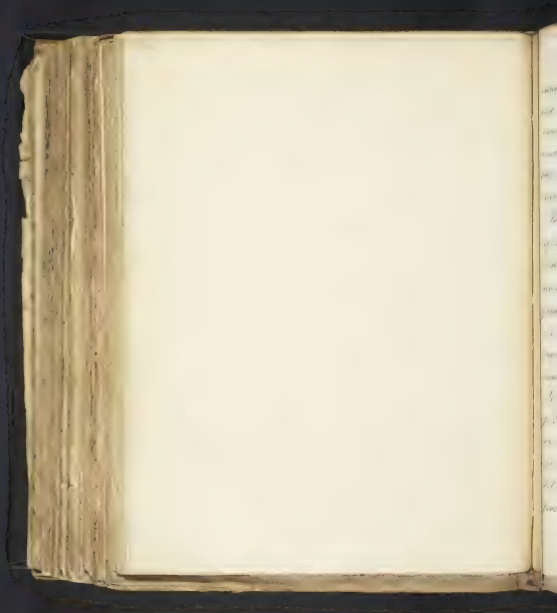
Our vessels in all such cases should be
 punctured, the discharge is turned to pre-
 vent the entrance of the atmospheric air.

To accomplish these objects, some of the
 French Surgeons have proposed to fill the
 external cavity with terebinthine, the extrusion
 of which hanging in the thorax, would ex-
 haust the air, as a syphon, whilst the air



would not be admitted, and in some instances this plan may prove very useful, but the employment of an auto-gum, viz. to tubercle, can only prove injurious.

These means will contribute greatly to promote the detritation of the lungs, and in patients of robust constitutions may often succeed, but of course will never answer as long as any source of irritation remains, hence all foreign bodies are to be removed, sometimes by incisions into the Pleura, and sometimes by injections, by which, if even they may be "washed out," should not or more relief be increased, as time of recovery can be ascertained sooner, suppuration, cavitation, and or what every measures until the dead part has been created and removed by the surgeon. Notwithstanding however, the best efforts some cases are absolutely incurable in consequence of the indurated or otherwise dis-



caused death of the lung preventing its expansion and which is very apt to be found in old cases. In recent cases we may hope for a cure after the first danger, viz inflammation has been arrested and all foreign substances removed.

The second case in which this complaint represented to us, is with the necessity of the thoracic cavity. The chest distending it in every direction and compressing the lungs, so as greatly to embarrass or destroy their functions.

The important question to be decided in such cases is whether the chest should be evacuated by removing the serum.

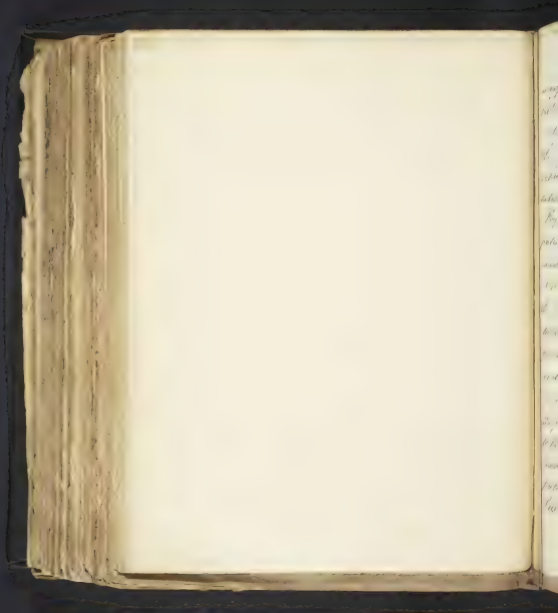
In reviewing works on this important subject, we find that the necessity of thoracic action is much more to be made when the action of the lungs is impaired. In such cases, it is determined, not only that a cure is not possible, but that the patient is very young.



irritations in this subject. I rather covet to get
out of me some few lines "more directing
"my things on me. I suppose without a good
reason" he is remembered the dangers of
this irritation on the one hand, and on
the other the danger of the disease.

I have found it made into the cavity of
the stomach when it is almost collapsed in
every position. The air will be compressed
and it is everywhere and will not escape
its place. The first danger therefore arises
from a violent continuous inflammation
extending from the fundus over the whole
surface of the stomach, producing great con-
stitutional irritation and often death.

And recent this irritation is often
greatly aggravated from the decomposition
of the food, occasioned by the power of
the atmospheric air. The treatment of this
gastro enteritis says a celebrated french author



is inferior, whatever fluid may be present,
but more especially when this effused.

And thirdly should the dyspnoea caused
the patient may and generally will be
exhausted by the profuse discharge, which
takes place from this very shoddy vessel.

By one or all of these causes the unfortunate
patient is very generally destroyed. but as so-
merely mentioned recoveries do sometimes occur.

On the contrary if the disease be left to itself
the Pus may continue to accumulate. the
difficulty of respiration increases, a fever
never ceases to be kept up, and suffocation even is
induced.

Such are the circumstances. The one and
the proper principle or rule of practice here
to be deduced, seems to be very clear, namely
never to operate for Empyema until the
patient's life is endangered by the quantity of
Pus collected. So long as symptoms of supp.

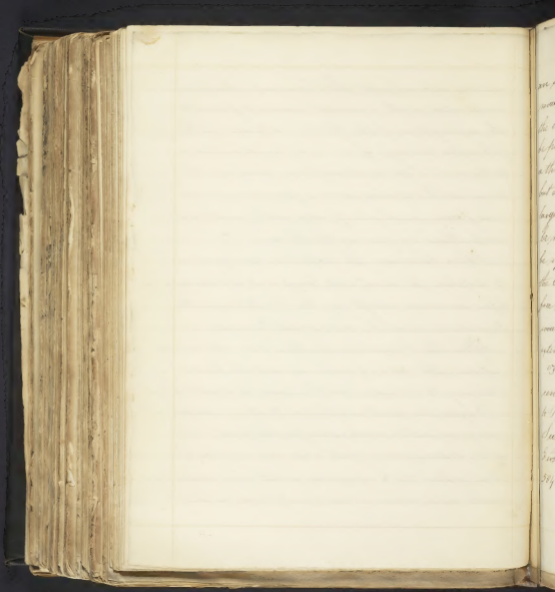


cation are absent, the Surgeon should be contented with medical means to promote the absorption of the fluid (or to discuss this pleuritic abscess, if we may be permitted so to term it) for as absorption advances the lung will expand, and a permanent cure may occasionally be effected with much less risk, than by opening the thorax.

When however the distention is so great, as to displace the heart and lungs, and to endanger life, no choice is left for the Practitioner, the puncture must be immediately made.

After the operation has thus been determined upon, the next question is, as to the kind of opening to be made, whether large or small?

Boyer, the writer alluded to above, in his very valuable work, discusses this point, and after deducing some facts and cases, concludes, that when the Empyema is not very considerable and when it has been formed rapidly,



an incision of moderate size should be made, a portion of the Pus evacuated, and the entrance of atmospheric air (if possible) be prevented by a dossil of lint, secured by a thread, so as to fill the orifice completely, but that when the Empyema is old and of large size, a small puncture, should first be made and allowed to heal, afterwards to be repeated, three or four times, so as to allow the lung to expand in some degree, before a free incision is made into the thorax, which would otherwise be very dangerous from the extent &c. of exposed surface.

For an account of the operation of Paracentesis Thoracis, I beg leave to refer the reader to Professor Gibson's excellent work on Surgery, vol. 2. p. 351. and also to Cooper's First Lines of the Practice of Surgery, vol. 1. p. 384. F. H. H.

J. S. A. G.

